

**(k) Additional Information**

For more information about this AD, contact Timothy Dowling, Aviation Safety Engineer, FAA, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 206-231-3667; email [timothy.p.dowling@faa.gov](mailto:timothy.p.dowling@faa.gov).

**(l) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless this AD specifies otherwise.

(i) European Union Aviation Safety Agency (EASA) AD 2023-0205, dated November 21, 2023.

(ii) [Reserved]

(3) For EASA AD 2023-0205, contact EASA, Konrad-Adenauer-Ufer 3, 50668 Cologne, Germany; telephone +49 221 8999 000; email [ADs@easa.europa.eu](mailto:ADs@easa.europa.eu); website [easa.europa.eu](http://easa.europa.eu). You may find this EASA AD on the EASA website at [ad.easa.europa.eu](http://ad.easa.europa.eu).

(4) You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

(5) You may view this material at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, visit [www.archives.gov/federal-register/cfr/ibr-locations](http://www.archives.gov/federal-register/cfr/ibr-locations), or email [fr.inspection@nara.gov](mailto:fr.inspection@nara.gov).

Issued on June 5, 2024.

**Suzanne Masterson,**

*Deputy Director, Integrated Certificate Management Division, Aircraft Certification Service.*

[FR Doc. 2024-14868 Filed 7-8-24; 8:45 am]

**BILLING CODE 4910-13-P**

**DEPARTMENT OF TRANSPORTATION****Federal Aviation Administration****14 CFR Part 39**

[Docket No. FAA-2023-1640; Project Identifier AD-2022-00283-E; Amendment 39-22768; AD 2024-12-04]

**RIN 2120-AA64**

**Airworthiness Directives; Pratt & Whitney Engines**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final rule.

**SUMMARY:** The FAA is adopting a new airworthiness directive (AD) for all Pratt & Whitney (PW) Model PW2037, PW2037M, and PW2040 engines with a certain high-pressure turbine (HPT) 2nd stage blade assembly installed. This AD was prompted by an in-flight shutdown

(IFSD) caused by the fracture of HPT 2nd stage turbine hub assembly lugs, which resulted in blade liberation and a titanium fire in the high-pressure compressor (HPC). This AD requires a visual inspection of the HPT 2nd stage blade assemblies for missing contact marks, a dimensional shadowgraph inspection of the HPT 2nd stage blade assemblies for blade root profile dimensional deviations, and an eddy current inspection (ECI) of the HPT 2nd stage turbine hub assembly for conforming slot flatness. This AD also requires removal from service and replacement of any HPT 2nd stage turbine hub assembly or HPT 2nd stage blade assembly that does not pass any inspection. The FAA is issuing this AD to address the unsafe condition on these products.

**DATES:** This AD is effective August 13, 2024.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of August 13, 2024.

**ADDRESSES:**

**AD Docket:** You may examine the AD docket at [regulations.gov](http://regulations.gov) under Docket No. FAA-2023-1640; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, any comments received, and other information. The address for Docket Operations is U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

**Material Incorporated by Reference:**

- For service information, contact Pratt & Whitney, 400 Main Street, East Hartford, CT 06118; phone: (860) 565-0140; email: [help24@pw.utc.com](mailto:help24@pw.utc.com); website: [connect.prattwhitney.com](http://connect.prattwhitney.com).
- You may view this service information at the FAA, Airworthiness Products Section, 1200 District Avenue, Burlington, MA 01803. For information on the availability of this material at the FAA, call (817) 222-5110. It is also available at [regulations.gov](http://regulations.gov) under Docket No. FAA-2023-1640.

**FOR FURTHER INFORMATION CONTACT:**

Carol Nguyen, Aviation Safety Engineer, FAA, 2200 South 216th Street, Des Moines, WA 98198; phone: (781) 238-7655; email: [carol.nguyen@faa.gov](mailto:carol.nguyen@faa.gov).

**SUPPLEMENTARY INFORMATION:****Background**

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to all PW Model PW2037,

PW2037M, and PW2040 engines with a certain HPT 2nd stage blade assembly installed. The NPRM published in the **Federal Register** on August 25, 2023 (88 FR 58114). The NPRM was prompted by an IFSD caused by the fracture of HPT 2nd stage turbine hub assembly lugs, which resulted in blade liberation and a titanium fire in the HPC.

In the NPRM, the FAA proposed to require a visual inspection of the HPT 2nd stage blade assemblies for missing contact marks, a dimensional shadowgraph inspection of the HPT 2nd stage blade assemblies for blade root profile dimensional deviations, and an ECI of the HPT 2nd stage turbine hub assembly for conforming slot flatness. The NPRM also proposed to require removal from service and replacement of any HPT 2nd stage turbine hub assembly or HPT 2nd stage blade assembly that does not pass any inspection. The FAA is issuing this AD to address the unsafe condition on these products.

**Discussion of Final Airworthiness Directive****Comments**

The FAA received comments from six commenters. The commenters were The Boeing Company (Boeing), Delta Air Lines (Delta), European Air Transport (EAT), FedEx Express (FedEx), MTU Maintenance Hannover GmbH (MTU), and United Parcel Service (UPS). Boeing supported the NPRM without change. The following presents the comments received from Delta, EAT, FedEx, MTU, and UPS on the NPRM and the FAA's response to each comment.

**Request To Exempt Certain Hubs From NPRM Cycle Limit**

Delta requested that the FAA allow hubs with an ECI performed on 25% of the blade slots to be inspected in accordance with the updated dimensional ECI procedure at the next piece part exposure of the HPT 2nd stage turbine hub assembly, rather than being inspected within the cycle limit of the NPRM. Delta noted that Method 2, Step 4 in PW Alert Service Bulletin PW2000 A72-777, Initial Issue, dated September 29, 2021 (PW2000 A72-777, Initial Issue) requires that HPT 2nd stage turbine hub assemblies be installed that have passed the HPT 2nd stage turbine hub assembly ECI inspection specified in PW2000 Engine Manual, Task 72-52-16-200-006, but does not provide guidance on the required amount of slots to be inspected. Delta also noted that in the beginning of the HPT Field Management Program for this unsafe condition and

prior to the updated ECI procedure being released for the HPT 2nd stage turbine hub assembly, T2 blades were inspected for conformance and installed into HPT 2nd stage turbine hub assemblies that were made serviceable with previous ECI instructions specified in the PW2000 Engine Manual, where only 16 out of 64 (25%) slots were required to be eddy current inspected.

The FAA disagrees with the request because there is a higher probability of identifying damage to the hub when 100% of the slots are inspected. Additionally, allowing hubs that have had an ECI performed on 25% of blade slots to wait until the next piece-part exposure for the updated ECI would increase the risk of failure. The FAA removed previous credit for PW2000 A72-777, Initial Issue, to ensure only HPT 2nd stage turbine hub assemblies with ECI performed on 100% of the blade slots comply with this AD. However, once this AD is published, any person may request approval of an alternative method of compliance (AMOC) under the provisions of paragraph (i) of this AD. The FAA did not change this AD as a result of this comment.

#### **Request To Clarify Applicability for Hubs Divorced From Mating Blades**

Delta requested that the FAA provide guidance on whether hubs that were divorced from their mating blades and do not have the required inspection results are exempt from the requirements of the NPRM, provided that the replacement set of blades to be installed are conforming to the visual and shadowgraph inspection requirements of PW Alert Service Bulletin PW2000 A72-777, Revision 2, dated April 11, 2023 (PW2000 A72-777, Rev. 2). Delta stated that there is no way to perform the actions required in the NPRM and PW2000 A72-777, Rev. 2 to determine serviceability related to this unsafe condition for piece part hubs that were already divorced from their mating blades because previously installed blades were not traced and may have already gone through overhaul process or were scrapped. Delta noted that after overhaul or scrapping of blades, visual contact patterns and blade profile are no longer available for inspection.

The FAA agrees that clarification is necessary. Hubs that are divorced from their mating blades are not exempt from the requirements of this final rule and are considered unserviceable, and therefore no exemption is necessary. The FAA did not change this AD as a result of this comment.

#### **Request To Define Methodology for Returning Hub to Service**

Delta requested that the FAA define the methodology for returning a hub to service using Section 1, Step 1.E. of PW2000 A72-777, Rev. 2, and as it relates to previous methods of compliance in previous revisions and previous PW Special Instructions (SIs). Delta noted that Section 1, Step 1.E. of PW2000 A72-777, Rev. 2 states that if an HPT 2nd stage blade assembly fails the visual inspection as specified in Step 1.B., all related HPT 2nd stage blade assemblies pass the shadowgraph inspection as specified in Step 1.C., and the related HPT 2nd stage hub assembly passes the ECI as specified in Step 1.D, the HPT 2nd Stage Blade Assemblies could be returned to P&W Customer Technical Service for additional inspection to identify the hub serviceability. Delta also noted that PW provided Pratt and Whitney Cover E.A. No. 22FA014, dated 26 October 2022, to accept these hubs into service.

The FAA disagrees with the request. The FAA notes that while Section 1, Step 1.E. of PW2000 A72-777, Rev. 2 is an optional method to return the hubs to service, it is not an action required by this AD and, therefore, defining the methodology for returning a hub to service is unnecessary. The FAA did not change this AD as a result of this comment.

#### **Request To Clarify Requirements for Credit for Previous Actions**

Delta requested that the FAA clarify if the required for compliance (RC) steps listed in PW2000 A72-777, Rev. 2 carry over to the previous versions of the ASB and previous versions of the PW SIs in order to provide credit for previous actions. Alternatively, Delta requested that the FAA provide the specific steps from each of the previous service information documents that are required in order to receive credit for previous actions. Delta noted that none of the previous revisions of the service information contain RC steps, which could cause confusion to operators regarding whether to request an AMOC for deviations from those instructions.

The FAA agrees to revise paragraph (h) of the final rule by removing PW2000 A72-777, Initial Issue, and instead including PW SI NO. 62F-21, dated June 7, 2021, PW SI NO. 62F-21A, dated October 4, 2021, PW SI NO. 73F-21, Revision A, dated September 29, 2021 (SI NO. 73F-21, Rev. A), and PW SI NO. 73F-21, Initial Issue, dated April 6, 2021 (SI NO. 73F-21, Initial Issue).

#### **Request To Add Service Information for Shadowgraph Inspections**

Delta requested that the FAA revise the NPRM to allow the shadowgraph inspections of the hub to be performed in accordance with all previous revisions to PW SI NO. 78F-21, Revision F, dated June 13, 2022 (SI NO. 78F-21, Rev. F). Delta noted that PW Alert Service Bulletin PW2000 A72-777, Revision 1, dated December 21, 2022 (PW2000 A72-777, Rev. 1) and PW2000 A72-777, Rev. 2 refer to "SI 78F-21, Rev F released 6/13/2022 or later revision," and previous revisions of SI NO. 78F-21 are permitted by PW2000 A72-777, Initial Issue. Delta also noted that several of the PW SI revisions were issued prior to PW2000 A72-777, Initial Issue.

The FAA disagrees with the request to allow the shadowgraph inspections of the hub to be performed in accordance with previous revisions of SI NO. 78F-21. SI NO. 78F-21, Rev. F already provides previous credit for previous revisions, which makes it unnecessary to provide credit for actions done using the previous revisions. The FAA did not change this AD as a result of this comment.

#### **Request To Add Service Information for Visual Inspections**

Delta requested that the FAA revise the NPRM to allow the visual inspections of the hub for contact marks to be performed in accordance with SI NO. 73F-21, Initial Issue. Delta noted that PW2000 A72-777, Rev. 2 refers to "SI 73F-21, Rev A released 9/29/2021 or later revision," and SI NO. 73F-21, Initial Issue is permitted per PW2000 A72-777. Delta also noted that several of the PW SI revisions were issued prior to PW2000 A72-777.

The FAA agrees with the request and has revised paragraph (h) of this AD to include credit for actions done in accordance with SI NO. 73F-21, Initial Issue.

#### **Request To Clarify Means To Accept New Blades**

Delta requested that the FAA revise the NPRM to clarify that communication from PW may be used as a means to accept new blades that meet the intent of SI NO. 78F-21, Initial Issue and later revisions. Delta noted that they have been using EagleNet Cases from PW for new blades where the intent of SI NO. 78F-21, Initial Issue and later revisions was accomplished. Delta also noted that PW does not include SI NO. 78F-21, Initial Issue or later revisions on the form FAA 8130-3 for new blades, and the markings on the blades are not always listed.

The FAA disagrees with the request. The FAA notes that this AD already refers to PW2000 A72-777, Rev. 2, as the appropriate service information, which also references SI NO. 78F-21, Rev. F. Additionally, SI NO. 78F-21, Rev. F allows credit for communications from PW as a means to accept new blades that meet the intent of SI NO. 78F-21, Initial Issue and later revisions. The FAA did not change this AD as a result of this comment.

#### **Request To Clarify Typographical Error in Service Information**

Delta requested that the FAA comment or provide guidance related to on a typographical error contained in the header of pages 3 through 8 of SI NO. 73F-21, Revision B, dated April 10, 2023 (SI NO. 73F-21, Rev. B). The typographical error incorrectly lists the document as Special Instruction No. 73F-21 A.

The FAA acknowledges that there is a typographical error contained in the header of pages 3 through 8 of SI NO. 73F-21, Rev. B which incorrectly lists the document as Special Instruction No. 73F-21 A. However, the typographical error does not change the content of the document, which is only allowed as credit for actions accomplished prior to the effective date of this AD. Additionally, after the effective date of this AD, the appropriate service information for the required actions is PW2000 A72-777 R7, Rev. 2. The FAA did not change this AD as a result of this comment.

#### **Request To Add Credit Note to AD**

Delta requested that the FAA add the following note from SI NO. 73F-21, Rev. B to the NPRM; "Accomplishment of PW2000 Engine Manual (Revision 131 or later) 72-52-17 Inspection/Check-14 is equivalent to the accomplishment of this Special Instruction 73F-21." Delta noted that since SI NO. 73F-21, Rev. B includes the PW2000 Engine Manual allowance, the same allowance should carry over to previous revisions of SI NO. 73F-21 that define the actions to correct the unsafe condition.

The FAA disagrees with the request. Earlier revisions of SI NO. 73F-21 did not contain this note, and the note specifically applies to SI NO. 73F-21, Rev. B. Additionally, after the effective date of this AD, the appropriate service information for the required actions is PW2000 A72-777 R7, Rev. 2. The FAA did not change this AD as a result of this comment.

#### **Request To Clarify the Required Compliance Times**

EAT requested that the FAA update the NPRM to clarify that actions identified as "RC" in, and in accordance with, the Accomplishment Instructions of PW2000 A72-777, Rev. 2, are one-time actions. EAT inferred that without this clarification, engines would need to undergo the required inspections every 1,800 flight cycles, which would limit the on-wing time for all worldwide engines. FedEx requested that the FAA revise the NPRM to include a terminating action paragraph. FedEx pointed out that neither the NPRM nor the required service information explicitly state that the actions are one-time only.

The FAA agrees to clarify. The actions required by this final rule are identified as "RC" in PW2000 A72-777, Rev. 2, which is the required service information. While not explicitly stated in either this final rule or the required service information, those actions are one-time only and have no stated repetitive compliance times. The FAA also notes that terminating action paragraphs are used specifically to terminate repetitive actions. However, the FAA is not mandating repetitive actions in this AD and, therefore, a terminating action paragraph is unnecessary. The FAA did not change this AD as a result of this comment.

#### **Request To Clarify Parts Eligible for Installation**

EAT requested that the FAA clarify that parts that were overhauled using the engine manual prior to the availability of PW2000 A72-777 should be eligible for installation. EAT noted that the NPRM and PW2000 A72-777, Rev. 2 do not mention HPT 2nd stage turbine hub assemblies which were repaired/overhauled before the initial issue of PW2000 A72-777 in September 2021. EAT also noted that the parts were overhauled in accordance with the valid engine manual at that time and therefore serviceable and eligible for installation.

The FAA agrees to clarify. Parts that were overhauled using the engine manual prior to the availability of PW2000 A72-777 are not eligible for installation. The FAA is publishing this AD to address a quality escape on the HPT 2nd stage blade assemblies. Removing the non-conforming blades and the corresponding HPT 2nd stage turbine hub from service is necessary to correct the unsafe condition. If the actions performed prior to the effective date of this AD do not meet the definition of a part eligible for installation, the part cannot be installed

on an engine. Additionally, the FAA has included credit for previous actions, using certain service information, in paragraph (h) of this AD, provided that those actions were done before the effective date of this AD. The FAA did not change this AD as a result of this comment.

#### **Request To Reduce Inspection Requirements for Certain Hub Assemblies**

EAT requested that the FAA revise the NPRM to allow HPT 2nd stage turbine hub assemblies removed prior to the initial issue of PW2000 A72-777 to pass only the 100% lug ECI inspection, instead of requiring all blades previously installed on the hub to pass the visual and shadowgraph inspection. EAT pointed out that the requirement for all blades to pass the visual and shadowgraph inspections was not a mandatory action at that time.

The FAA disagrees with the request. In order to correct the unsafe condition, the HPT 2nd stage blade assemblies with part number (P/N) 1B7522 must pass the visual and shadowgraph inspections in order to be considered a part eligible for installation. Additionally, the serviceability of the HPT 2nd stage turbine hub assembly is dependent on the blade assemblies passing the visual and shadowgraph inspections. If the blade assemblies do not pass those inspections, then the HPT 2nd stage turbine hub assembly also does not pass and becomes unserviceable. The FAA did not change this AD as a result of this comment.

#### **Request To Clarify Guidance on Early Inspections Using Engine Manual**

FedEx requested that the FAA revise paragraph (g) of the proposed AD and PW2000 A72-777, Rev. 2, Section 2, Paragraph 1.B. to provide guidance for operators that began conducting inspections early in collaboration with the engine manufacturer. FedEx noted that the general visual inspection requirement for blades installed on engines with serial numbers listed in Table 1 on page 9 of PW2000 A72-777, Rev. 2 is waived by a Note in Section 2, Paragraph 1.B. of PW2000 A72-777, Rev. 2. FedEx also noted that some engines were inspected before the initial release of PW2000 A72-777, before the release of earlier revisions of the SI, or per existing instructions for continued airworthiness that were published at the time which makes it impossible to directly claim compliance with the actions identified as "RC" within the Accomplishment Instructions of PW2000 A72-777, Rev. 2. FedEx also provided the following example: some

engines were inspected per PW2000 Engine Manual 72-52-15, Insp/Chk -06 (Firtree ECI) and 72-52-17, Insp/Chk -14 (blade shadowgraph) in the period between February, 2021 and September, 2021 (prior to their October 1, 2021 revision date).

The FAA agrees to provide guidance for operators that performed early inspections in collaboration with the engine manufacturer. Credit for compliance with the Firtree ECI can only be claimed if 100% of the slots were inspected. Credit may not be claimed for the previous ECI of the HPT T2 hub slots for the period between February 2021 and September 2021 because those instructions only required 25% of the slots to be inspected, which does not fully mitigate the unsafe condition. The FAA notes that the final field management plan to address this unsafe condition is described in this AD. The FAA did not change this AD as a result of this comment.

**Request To Clarify Inspections for Mixed Blade Engines**

MTU requested that the FAA clarify how to address inspections for engines that have a mix of affected and unaffected HPT 2nd stage blade assemblies installed. MTU notes that PW2000 SB 72-775 allows interchangeability of old and new blade assemblies (differentiated by P/N). MTU also inferred that the NPRM is not applicable to an engine which has installed all 64 HPT 2nd stage blade assemblies having P/N 1B8722 in post PW2000 SB 72-775 configuration.

Engines with a mix of affected and unaffected HPT 2nd stage blade assemblies installed must perform the required inspections on the affected blades having P/N 1B7522 only, and 100% of the HPT T2 hub slots. HPT T2 hubs that fail the ECI on any slot must be removed from service. P/N 1B8722 blade assemblies are not required to perform the inspections required by this

AD. If an engine has 64 HPT 2nd stage blade assemblies having P/N 1B8722 installed, then this AD is not applicable to that engine. The FAA did not change this AD as a result of this comment.

**Request To Clarify Credit for Inspections Using Initial Release of SI NO. 73F-21**

MTU requested that the FAA provide credit for previous actions done in accordance with SI NO. 73F-21, Initial Issue, dated April 6, 2021, or earlier.

The FAA agrees with the request and has updated paragraph (h) of this AD to provide credit for the required actions done before the effective date of this AD using SI NO. 78F-21, dated April 12, 2021. However, operators that prefer to address the unsafe condition by means other than those specified in the referenced service information may request an AMOC in accordance with paragraph (i) of this AD.

**Request To Change Compliance Time**

UPS requested that the FAA revise the NPRM to allow a longer compliance time. UPS noted that PW part shortages and supply chain constraints have resulted in long lead times. UPS also stated that the required compliance times are not adequate to maintain PW2000 engine spare levels, which would negatively impact UPS operations.

The FAA disagrees with the request to allow a longer compliance time in this AD. In developing an appropriate compliance time, the FAA considered the urgency associated with the subject unsafe condition, the availability of required parts, and the practical aspect of accomplishing the required modification within a period of time that corresponds to the normal scheduled maintenance for most affected operators. The FAA has determined that the compliance time provides an acceptable level of safety. However, under the provisions of

paragraph (i) of this AD, the FAA will consider requests for an extension of the compliance time if sufficient data are submitted to substantiate that the change would provide an acceptable level of safety. The FAA did not change this AD as a result of this comment.

**Conclusion**

The FAA reviewed the relevant data, considered any comments received, and determined that air safety requires adopting this AD as proposed. Accordingly, the FAA is issuing this AD to address the unsafe condition on these products. Except for minor editorial changes, and any other changes described previously, this AD is adopted as proposed in the NPRM. None of the changes will increase the economic burden on any operator.

**Related Service Information Under 1 CFR Part 51**

The FAA reviewed PW2000 A72-777, Rev. 2, which specifies procedures for performing a visual inspection of the HPT 2nd stage blade assemblies for missing contact marks, dimensional shadowgraph inspection of the HPT 2nd stage blade assemblies for dimensional deviations, and an ECI of the HPT 2nd stage turbine hub assembly for conforming slot flatness. This service information also specifies removal from service of any HPT 2nd stage turbine hub assembly or HPT 2nd stage blade assembly that does not pass any inspection. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in

**ADDRESSES.**

**Costs of Compliance**

The FAA estimates that this AD affects 425 engines installed on airplanes of U.S. registry.

The FAA estimates the following costs to comply with this AD:

**ESTIMATED COSTS**

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
ECI of the HPT 2nd stage turbine hub assembly ...	8 work-hours × \$85 per hour = \$680 ...	\$0	\$680	\$289,000
Visual Inspection of the HPT 2nd stage blade assembly.	8 work-hours × \$85 per hour = \$680 ...	0	680	289,000
Dimensional shadowgraph inspection of HPT 2nd stage blade assemblies.	8 work-hours × \$85 per hour = \$680 ...	0	680	289,000

The FAA estimates the following costs to do any necessary replacements that would be required based on the

results of the inspections. The agency has no way of determining the number

of aircraft that might need these replacements:

ON-CONDITION COSTS

Action	Labor cost	Parts cost	Cost per product
Replace HPT 2nd stage turbine hub assembly .....	0 work-hours × \$85 per hour = \$0 .....	\$456,000	\$456,000
Replace HPT 2nd stage blade assembly .....	0 work-hours × \$85 per hour = \$0 .....	17,000	17,000

**Authority for This Rulemaking**

Title 49 of the United States Code specifies the FAA’s authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency’s authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

**Regulatory Findings**

This AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Will not affect intrastate aviation in Alaska, and
- (3) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

**List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

**The Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

**PART 39—AIRWORTHINESS DIRECTIVES**

■ 1. The authority citation for part 39 continues to read as follows:

**Authority:** 49 U.S.C. 106(g), 40113, 44701.

**§ 39.13 [Amended]**

■ 2. The FAA amends § 39.13 by adding the following new airworthiness directive:

**2024–12–04 Pratt & Whitney:** Amendment 39–22768; Docket No. FAA–2023–1640; Project Identifier AD–2022–00283–E.

**(a) Effective Date**

This airworthiness directive (AD) is effective August 13, 2024.

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to Pratt & Whitney (PW) Model PW2037, PW2037M, and PW2040 engines with a high-pressure turbine (HPT) 2nd stage blade assembly, part number (P/N) 1B7522 installed.

**(d) Subject**

Joint Aircraft System Component (JASC) Code 7250, Turbine Section.

**(e) Unsafe Condition**

This AD was prompted by an in-flight shutdown caused by the fracture of HPT 2nd stage turbine hub assembly lugs. The FAA is issuing this AD to prevent failure of the HPT 2nd stage turbine hub assembly lug and HPT 2nd stage blade assemblies. The unsafe condition, if not addressed, could result in the uncontained release of the HPT 2nd stage blade assemblies, damage to the engine, and damage to the airplane.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Required Actions**

Before exceeding the applicable compliance times specified in Planning Information, Compliance, page 2, of PW Alert Service Bulletin PW2000 A72–777, Revision 2, dated April 11, 2023 (PW2000 A72–777, Rev. 2), or before accumulating 500 cycles after the effective date of this AD, whichever occurs later, perform all applicable actions identified as “RC” (required for compliance) in, and in accordance with, the Accomplishment Instructions of PW2000 A72–777, Rev. 2.

**(h) Credit for Previous Actions**

You may take credit for the inspections required by paragraph (g) of this AD if you performed those inspections before the effective date of this AD using PW Alert Service Bulletin PW2000 A72–777, Revision 1, dated December 21, 2022, PW Special Instruction (SI) NO. 62F–21, Initial Issue, dated June 7, 2021, or PW SI NO. 62F–21A, dated October 4, 2021.

You may take credit for the inspection specified in Section 1, paragraph 1.B. of the Accomplishment Instructions of PW2000 A72–777, Rev. 2, which is required by paragraph (g) of this AD, if you performed the inspection before the effective date of this AD using PW SI NO. 73F–21, Initial Issue, dated April 6, 2021, or PW SI NO. 73F–21, Revision A, dated September 29, 2021.

**(i) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, AIR–520 Continued Operational Safety Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the Manager, AIR–520 Continued Operational Safety Branch, send it to the attention of the person identified in paragraph (j) of this AD and email to: ANE-AD-AMOC@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(3) For service information that contains steps that are labeled as Required for Compliance (RC), the following provisions apply.

(i) The steps labeled as RC, including substeps under an RC step and any figures identified in an RC step, must be done to comply with the AD. An AMOC is required for any deviations to RC steps, including substeps and identified figures.

(ii) Steps not labeled as RC may be deviated from using accepted methods in accordance with the operator’s maintenance or inspection program without obtaining approval of an AMOC, provided the RC steps, including substeps and identified figures, can still be done as specified, and the airplane can be put back in an airworthy condition.

**(j) Additional Information**

For more information about this AD, contact Carol Nguyen, Aviation Safety Engineer, FAA, 2200 South 216th Street, Des Moines, WA 98198; phone: (781) 238–7655; email: carol.nguyen@faa.gov.

**(k) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) Pratt & Whitney Alert Service Bulletin PW2000 A72-777, Revision 2, dated April 11, 2023.

(ii) [Reserved]

(3) For Pratt & Whitney service information, contact Pratt & Whitney, 400 Main Street, East Hartford, CT 06118; phone: (800) 565-0140; email: [help24@pw.utc.com](mailto:help24@pw.utc.com); website: [connect.prattwhitney.com](http://connect.prattwhitney.com).

(4) You may view this service information at FAA, Airworthiness Products Section, Operational Safety Branch, 1200 District Avenue, Burlington, MA 01803. For information on the availability of this material at the FAA, call (817) 222-5110.

(5) You may view this material at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, visit [www.archives.gov/federal-register/cfr/ibr-locations](http://www.archives.gov/federal-register/cfr/ibr-locations) or email [fr.inspection@nara.gov](mailto:fr.inspection@nara.gov).

Issued on June 11, 2024.

**Suzanne Masterson,**

*Deputy Director, Integrated Certificate Management Division, Aircraft Certification Service.*

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**DEPARTMENT OF TRANSPORTATION****Federal Aviation Administration****14 CFR Part 39**

[Docket No. FAA-2024-0466; Project Identifier MCAI-2023-00862-T; Amendment 39-22766; AD 2024-12-02]

**RIN 2120-AA64**

**Airworthiness Directives; Airbus Canada Limited Partnership (Type Certificate Previously Held by C Series Aircraft Limited Partnership (CSALP); Bombardier, Inc.) Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final rule.

**SUMMARY:** The FAA is adopting a new airworthiness directive (AD) for certain Airbus Canada Limited Partnership Model BD-500-1A10 and BD-500-1A11 airplanes. This AD was prompted by production flight test findings of several oxygen masks disconnected from their accompanying portable oxygen bottles. This AD requires inspecting the portable oxygen bottles and reconnecting the masks to the accompanying portable oxygen bottles if

not connected, as specified in a Transport Canada AD, which is incorporated by reference. The FAA is issuing this AD to address the unsafe condition on these products.

**DATES:** This AD is effective August 13, 2024.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of August 13, 2024.

**ADDRESSES:**

**AD Docket:** You may examine the AD docket at [regulations.gov](http://regulations.gov) under Docket No. FAA-2024-0466; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, the mandatory continuing airworthiness information (MCAI), any comments received, and other information. The address for Docket Operations is U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

**Material Incorporated by Reference:**

- For Transport Canada material, contact Transport Canada, Transport Canada National Aircraft Certification, 159 Cleopatra Drive, Nepean, Ontario K1A 0N5, Canada; telephone 888-663-3639; email [TC.AirworthinessDirectives-Consignesdenavigabilite.TC@tc.gc.ca](mailto:TC.AirworthinessDirectives-Consignesdenavigabilite.TC@tc.gc.ca); website [tc.canada.ca/en/aviation](http://tc.canada.ca/en/aviation).

- You may view this material at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195. It is also available in the AD docket at [regulations.gov](http://regulations.gov) under Docket No. FAA-2024-0466.

**FOR FURTHER INFORMATION CONTACT:**

Fatin Saumik, Aviation Safety Engineer, FAA, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7300; email [fatin.r.saumik@faa.gov](mailto:fatin.r.saumik@faa.gov).

**SUPPLEMENTARY INFORMATION:****Background**

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to certain Airbus Canada Limited Partnership Model BD-500-1A10 and BD-500-1A11 airplanes. The NPRM published in the **Federal Register** on March 21, 2024 (89 FR 20139). The NPRM was prompted by AD CF-2023-52, dated July 12, 2023 (Transport Canada AD CF-2023-52) (also referred to as the MCAI), issued by Transport Canada, which is the aviation authority for Canada. The MCAI states that during production flight tests, several oxygen

masks were found disconnected from their accompanying portable oxygen bottles. An investigation determined that servicing instructions sent to the supplier did not include reconnecting oxygen masks. Since the problem was discovered, proper procedures were sent to the supplier to reconnect the masks and bottles. If an oxygen mask is not connected to the accompanying portable oxygen bottle, oxygen will not be provided to the cabin crew and/or passengers during a sudden decompression above 10,000 feet or during a first aid situation.

In the NPRM, the FAA proposed to require inspecting the portable oxygen bottles and reconnecting the masks to the accompanying portable oxygen bottles if not connected, as specified in Transport Canada AD CF-2023-52. The FAA is issuing this AD to address the unsafe condition on these products.

You may examine the MCAI in the AD docket at [regulations.gov](http://regulations.gov) under Docket No. FAA-2024-0466.

**Discussion of Final Airworthiness Directive****Comments**

The FAA received no comments on the NPRM or on the determination of the cost to the public.

**Conclusion**

This product has been approved by the aviation authority of another country and is approved for operation in the United States. Pursuant to the FAA's bilateral agreement with this State of Design Authority, it has notified the FAA of the unsafe condition described in the MCAI referenced above. The FAA reviewed the relevant data and determined that air safety requires adopting this AD as proposed. Accordingly, the FAA is issuing this AD to address the unsafe condition on this product. Except for minor editorial changes, this AD is adopted as proposed in the NPRM. None of the changes will increase the economic burden on any operator.

**Related Service Information Under 14 CFR Part 51**

Transport Canada AD CF-2023-52 specifies procedures for a general visual inspection (GVI) on portable oxygen bottles and reconnection of the mask to the accompanying portable oxygen bottles if not connected. This material is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the **ADDRESSES** section.